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Various mathematical models to study COVID-19 pandemic dynamics with quarantine, hospitalized and non-pharmaceutical interventions as control strategies

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Despite the major advances in the medical sciences, infectious diseases continue to cause significant morbidity and mortality in human populations worldwide. The new virus is normally responsible for an annual epidemic. Currently, we are facing COVID-19 (corona virus) outbreak, already accounted 4.5 crore infected and 11.8 lakh deaths worldwide. In this paper, we tries to build various mathematical models for studding dynamics of COVID-19 pandemic with quarantine, hospitalized and non-pharmaceutical interventions as control strategies. As, mathematical models and computer simulations are useful in determining important biological thresholds because experiments with infectious disease spread in human populations are often expensive, unethical and sometimes impossible.